## CIRM Approves $58 Million to Build California's Future Stem Cell Research Workforce

Posted: January 30, 2009

Burlingame, Calif., January 29, 2009 – The governing board for the California Institute for Regenerative Medicine, the state stem cell agency, gave tentative approval for a $58 million infusion to California's future work force in stem cell research. The 29-member Independent Citizen's Oversight Committee voted to support 26 grants pending future financial availability in two rounds of grants going to schools that will train the scientists and laboratory technicians of tomorrow.

In light of the current financial situation in California, the board meeting began with a discussion of funding scenarios through 2010. At this time CIRM can fund all existing commitments through September of 2009.

The governing board chose not to approve immediate funding for the Bridges to Stem Cell Research and Research Training Program II grants due to the State's current inability to sell bonds on the public market. Instead, they voted on the grants they would like to see funded when the financial situation resolves. That decision will depend on the board's sense that the organization has sufficient funds and that the grants are consistent with the CIRM's priorities at that time.

The 11 tentatively approved grants in the Bridges to Stem Cell Research program will provide $17.5 million to building future stem cell research workforce. These grants fund efforts to engage undergraduate and masters level students in stem cell research. The programs will provide comprehensive lecture and laboratory courses, facilitate internship placement, and advise and mentor students on research progress and career opportunities. The graduates of these programs will have the expertise needed to staff California's expanding stem cell research laboratories in both industry and academic organizations.

In a letter, Senator Gloria Romero and Senate President pro Tempore Darrel Steinberg congratulated CIRM on the Bridges to Stem Cell Research Awards, citing recent reports from BayBio and from the California Public Policy Institute forecasting a widespread shortage of college-educated and technically trained workers to meet industry demands. "An educated and properly trained workforce is essential if our state is to retain its premier position and fully realize the medical and economic benefits from this emerging industry," they wrote.

"Training young people is critical to our mission of developing new therapies," said Robert Klein, chairman of the CIRM governing board. "As California's stem cell industry continues to grow the state will face a critical shortage for biomedical laboratory workers trained in state-of-the-art techniques required by stem cell research labs. People who graduate from our Bridges programs will be ready to fill these positions and help California industry and academic labs maintain momentum in their search for cures."

The board also approved 15 Research Training Program II awards worth $40.6 million to fund graduate students, postdoctoral scholars and clinical fellows working in stem cell research labs. These grants follow the 16 given out in the first round of CIRM funding in 2006. Those grants are due to expire this year.

To accommodate the different sizes of the stem cell research programs throughout California, the Training grants support three types of programs.

- Type 1 Comprehensive training programs support up to 16 pre-doctoral, post-doctoral and clinical fellows.
- Type 2 Intermediate training programs support up to ten students at two of the education levels.

- Type 3 Specialized training programs support up to six trainees at one or two levels of education.

"These trainees are our future stem cell scientists," said Alan Trounson, President of CIRM. "With these awards we are establishing a strong next generation of researchers and physician scientists to continue developing new stem cell-based therapies."

In addition to the Bridges and Training grants, the board considered additional Tools & Technologies grants carried over from the previous meeting. The board voted against funding any of these grants beyond the 23 approved in December.

**Other ICOC business**

The board also discussed the CIRM loan program, which will fund the translation of basic research into therapy development programs, potentially including early phase human trials. These loans will provide a mechanism for the funds to be recycled, thereby creating a recurring funding source to reach a broader medical portfolio and to accommodate the larger scale funding requirements of human trials.

The board voted that all successful industry applications to the Disease Team Awards would be funded through the loan program rather than through grants. This policy will allow funding for a greater number of these critical awards.

The following grants were approved at today's meeting, pending a future decision by the Governing Board to moving forward with funding:

**Bridges to Stem Cell Research**

| Application Number | Institution | Budget |
|---|---|---|
| TB1-01175 | California Polytechnic State University, | $1,396,509 |
| | San Luis Obispo | |
| TB1-01176 | California State Polytechnic University, | $1,436,797 |
| | Pomona | |
| TB1-01177 | California State University, Channel | $1,733,406 |
| | Islands | |
| TB1-01182 | California State University, Long Beach | $1,337,700 |
| TB1-01184 | California State University, Sacramento | $1,321,440 |
| TB1-01186 | California State University, San Marcos | $1,732,164 |
| TB1-01190 | Humboldt State University | $1,616,363 |
| TB1-01192 | Pasadena City College | $1,727,991 |
| TB1-01193 | San Diego State University | $1,716,030 |
| TB1-01194 | San Francisco State University | $1,713,558 |
| TB1-01195 | San Jose State University | $1,733,760 |
| **Total** | | **$17,465,718** |

**Research Training Program II**

| Application Number | Grant Type | Institution | Budget |
|---|---|---|---|
| TG2-01150 | 3 | City of Hope | $1,212,732 |
| TG2-01151 | 3 | University of California, Santa Barbara | $1,202,913 |
| TG2-01152 | 1 | University of California, Irvine | $3,339,332 |
| TG2-01153 | 1 | University of California, San Francisco | $3,899,912 |

| | | | |
|---|---|---|---|
| TG2-01154 | 1 | University of California, San Diego | $3,886,191 |
| TG2-01157 | 2 | University of California, Santa Cruz | $2,257,012 |
| TG2-01158 | 2 | The Salk Institute for Biological Studies | $1,507,613 |
| TG2-01159 | 1 | Stanford University | $3,930,000 |
| TG2-01160 | 2 | The J. David Gladstone Institutes | $2,517,888 |
| TG2-01162 | 3 | Burnham Institute for Medical Research | $1,390,599 |
| TG2-01163 | 1 | University of California, Davis | $3,623,004 |
| TG2-01164 | 1 | University of California, Berkeley | $3,371,686 |
| TG2-01165 | 2 | Scripps Research Institute | $1,997,328 |
| TG2-01168 | 2 | Children's Hospital Los Angeles | $2,518,227 |
| TG2-01169 | 1 | University of California, Los Angeles | $3,930,000 |
| **Total** | | | **$40,584,437** |

**All Grants to Date**

| | Research | Facilities | Total | Total |
|---|---|---|---|---|
| Institution | Grants | Grants | Grants | Funds |
| Stanford University | 33 | 2 | 35 | $101,245,022 |
| University of California, San Francisco | 27 | 2 | 29 | $83,808,866 |
| University of California, Los Angeles | 22 | 2 | 24 | $57,074,184 |
| University of California, Irvine | 19 | 2 | 21 | $56,157,567 |
| University of Southern California | 13 | 2 | 15 | $49,418,708 |
| Sanford Consortium for Regenerative Medicine | 0 | 1 | 1 | $43,000,000 |
| University of California, Davis | 10 | 2 | 12 | $41,067,279 |
| University of California, San Diego | 20 | 1 | 21 | $37,664,719 |
| University of California, Berkeley | 8 | 2 | 10 | $34,626,605 |
| Buck Institute for Age Research | 2 | 2 | 4 | $25,429,364 |
| The J. David Gladstone Institutes | 11 | 1 | 12 | $21,305,030 |
| Burnham Institute for Medical Research | 13 | 1 | 14 | $19,571,395 |
| University of California, Santa Cruz | 7 | 2 | 9 | $19,383,633 |

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|---|---|---|---|---|
| The Salk Institute for Biological Studies | 10 | 1 | 11 | $17,544,343 |
| Scripps Research Institute | 8 | 1 | 9 | $15,322,221 |
| Childrens Hospital Los Angeles | 7 | 1 | 8 | $14,274,310 |
| University of California, Merced | 4 | 1 | 5 | $8,494,301 |
| University of California, Santa Barbara | 3 | 2 | 5 | $8,490,842 |
| University of California, Riverside | 3 | 1 | 4 | $6,055,762 |
| City of Hope National Medical Center | 5 | 0 | 5 | $4,131,703 |
| San Diego State University | 2 | 0 | 2 | $3,441,860 |
| Ludwig Institute for Cancer Research | 3 | 0 | 3 | $2,473,053 |
| California Institute of Technology | 1 | 0 | 1 | $2,071,823 |
| San Jose State University | 1 | 0 | 1 | $1,733,760 |
| California State University,Channel Islands | 1 | 0 | 1 | $1,733,760 |
| California State University,San Marcos | 1 | 0 | 1 | $1,732,164 |
| Pasadena City College | 1 | 0 | 1 | $1,727,991 |
| San Francisco State University | 1 | 0 | 1 | $1,713,558 |
| Humboldt State University | 1 | 0 | 1 | $1,616,363 |
| California State Polytechnic University, Pomona | 1 | 0 | 1 | $1,436,797 |
| California State Polytechnic University, San Luis Obispo | 1 | 0 | 1 | $1,396,509 |
| California State Polytechnic University, Long Beach | 1 | 0 | 1 | $1,337,700 |
| California State University, Sacramento | 1 | 0 | 1 | $1,321,440 |
| VistaGen Therapeutics, Inc. | 1 | 0 | 1 | $971,558 |
| Gamma Medica-Ideas, Inc. | 1 | 0 | 1 | $949,748 |
| Vala Sciences, Inc. | 1 | 0 | 1 | $906,629 |
| Novocell, Inc. | 2 | 0 | 2 | $876,022 |
| Invitrogen Corporation | 1 | 0 | 1 | $869,262 |
| Fluidigm Corporation | 1 | 0 | 1 | $749,520 |
| Human BioMolecular Research Institute | 1 | 0 | 1 | $714,654 |
| Cedars-Sinai Medical Center | 1 | 0 | 1 | $46,886 |
| TOTALS | 250 | 29 | 279 | $693,886,557 |

**About CIRM**

CIRM was established in early 2005 with the passage of Proposition 71, the California Stem Cell Research and Cures Act. The statewide ballot measure, which provided $3 billion in funding for stem cell research at California universities and research institutions, was overwhelmingly approved by voters, and called for the establishment of an entity to make grants and provide loans for stem cell research, research facilities, and other vital research opportunities. To date, the CIRM governing board has approved 279 research and facility grants totaling more than $693 million, making CIRM the largest source of funding for human embryonic stem cell research in the world. For more information, please visit www.cirm.ca.gov.


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